

SEQUENCE LISTING

<110> Hotten, Gertrud  
Neidhardt, Helge  
Bechtold, Rolf  
Pohl, Jens



<120> GROWTH/DIFFERENTIATION FACTORS OF THE TGF-B FAMILY

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<140> 09/901,556

<141> 1999-08-25

<150> 08/289,222

<151> 1994-08-12

<150> DE P 44 23 190.3

<151> 1994-07-01

<150> EPO 92102324.8

<151> 1992-02-12

<150> PCT/EP93/00350

<151> 1993-02-12

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<170> PatentIn version 3.1

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35 40 45

Ala Arg Glu Pro Gly Pro Pro Arg Glu Pro Lys Glu Pro Phe Arg Pro  
50 55 60

Pro Pro Ile Thr Pro His Glu Tyr Met Leu Ser Leu Tyr Arg Thr Leu  
65 70 75 80

Ser Asp Ala Asp Arg Lys Gly Gly Asn Ser Ser Val Lys Leu Glu Ala  
85 90 95

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Arg Gly Pro Val Val Arg Lys Gln Arg Tyr Val Phe Asp Ile Ser Ala  
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180 185 190

Val Phe Asp Ile Trp Lys Leu Phe Arg Asn Phe Lys Asn Ser Ala Gln  
195 200 205

Leu Cys Leu Glu Leu Glu Ala Trp Glu Arg Gly Arg Ala Val Asp Leu  
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Arg Gly Leu Gly Phe Asp Arg Ala Ala Arg Gln Val His Glu Lys Ala  
225 230 235 240

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Glu Ile Lys Ala Arg Ser Gly Gln Asp Asp Lys Thr Val Tyr Glu Tyr  
260 265 270

Leu Phe Ser Gln Arg Arg Lys Arg Arg Ala Pro Leu Ala Thr Arg Gln  
275 280 285

Gly Lys Arg Pro Ser Lys Asn Leu Lys Ala Arg Cys Ser Arg Lys Ala  
290 295 300

Leu His Val Asn Phe Lys Asp Met Gly Trp Asp Asp Trp Ile Ile Ala  
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Pro Leu Glu Tyr Glu Ala Phe His Cys Glu Gly Leu Cys Glu Phe Pro  
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Met Asn Ser Met Asp Pro Glu Ser Thr Pro Pro Thr Cys Cys Val Pro  
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Arg Ser Ile Leu Asp Lys Leu His Leu Thr Gln Arg Pro Thr Leu Asn  
50 55 60

Arg Pro Val Ser Arg Ala Ala Leu Arg Thr Ala Leu Gln His Leu His  
65 70 75 80

Gly Val Pro Gln Gly Ala Leu Leu Glu Asp Asn Arg Glu Gln Glu Cys  
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Glu Ile Ile Ser Phe Ala Glu Thr Gly Leu Ser Thr Ile Asn Gln Thr  
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Arg Leu Asp Phe His Phe Ser Ser Asp Arg Thr Ala Gly Asp Arg Glu  
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Asn Leu Thr Leu Ala Thr Gln Tyr Leu Leu Glu Val Asp Ala Ser Gly  
165 170 175

Trp His Gln Leu Pro Leu Gly Pro Glu Ala Gln Ala Ala Cys Ser Gln  
180 185 190

Gly His Leu Thr Leu Glu Leu Val Leu Glu Gly Gln Val Ala Gln Ser  
195 200 205

Ser Val Ile Leu Gly Gly Ala Ala His Arg Pro Phe Val Ala Ala Arg  
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Val Arg Val Gly Gly Lys His Gln Ile His Arg Arg Gly Ile Asp Cys  
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Gln Gly Gly Ser Arg Met Cys Cys Arg Gln Glu Phe Phe Val Asp Phe  
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Arg Glu Ile Gly Trp His Asp Trp Ile Ile Gln Pro Glu Gly Tyr Ala  
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Met Asn Phe Cys Ile Gly Gln Cys Pro Leu His Ile Ala Gly Met Pro  
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Gly Ile Ala Ala Ser Phe His Thr Ala Val Leu Asn Leu Leu Lys Ala  
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Asn Thr Ala Ala Gly Thr Thr Gly Gly Gly Ser Cys Cys Val Pro Thr  
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35 40 45

Val Ile Gln Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr Pro Pro  
50 55 60

Thr Cys Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe Ile  
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35 40 45

Ile Val Gln Thr Leu Val Asn Ser Val Asn Ser Lys Ile Pro Lys Ala  
50 55 60

Cys Cys Val Pro Thr Glu Leu Ser Ala Ile Ser Met Leu Tyr Leu Asp  
65 70 75 80

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Gly Cys Gly Cys Arg  
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Asp Cys Pro Phe Pro Leu Ala Asp His Leu Asn Ser Thr Asn His Ala  
 35 40 45

Ile Val Gln Thr Leu Val Asn Ser Val Asn Ser Ser Ile Pro Lys Ala  
 50 55 60

Cys Cys Val Pro Thr Glu Leu Ser Ala Ile Ser Met Leu Tyr Leu Asp  
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Glu Tyr Asp Lys Val Val Leu Lys Asn Tyr Gln Glu Met Val Val Glu  
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Gly Cys Gly Cys Arg  
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 35 40 45

Ile Val Gln Thr Leu Val His Leu Met Phe Pro Asp His Val Pro Lys  
 50 55 60

Pro Cys Cys Ala Pro Thr Lys Leu Asn Ala Ile Ser Val Leu Tyr Phe  
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Glu Cys Ser Phe Pro Leu Asn Ala His Met Asn Ala Thr Asn His Ala  
35 40 45

Ile Val Gln Thr Leu Val His Leu Met Asn Pro Glu Tyr Val Pro Lys  
50 55 60

Pro Cys Cys Ala Pro Thr Lys Leu Asn Ala Ile Ser Val Leu Tyr Phe  
65 70 75 80

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85 90 95

Arg Ala Cys Gly Cys His  
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20 25 30

Glu Cys Ala Phe Pro Leu Asn Ser Tyr Met Asn Ala Thr Asn His Ala  
35 40 45

Ile Val Gln Thr Leu Val His Phe Ile Asn Pro Glu Thr Val Pro Lys  
50 55 60

Pro Cys Cys Ala Pro Thr Gln Leu Asn Ala Ile Ser Val Leu Tyr Phe  
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Gln Cys Pro Leu His Ile Ala Gly Met Pro Gly Ile Ala Ala Ser Phe  
35 40 45

His Thr Ala Val Leu Asn Leu Leu Lys Ala Asn Thr Ala Ala Gly Thr  
50 55 60

Thr Gly Gly Gly Ser Cys Cys Val Pro Thr Ala Arg Arg Pro Leu Ser  
65 70 75 80

Leu Leu Tyr Tyr Asp Arg Asp Ser Asn Ile Val Lys Thr Asp Ile Pro  
85 90 95

Asp Met Val Val Glu Ala Cys Gly Cys Ser  
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Glu Cys Pro Ser His Ile Ala Gly Thr Ser Gly Ser Ser Leu Ser Phe  
35 40 45

His Ser Thr Val Ile Asn His Tyr Arg Met Arg Gly His Ser Pro Phe  
50 55 60

Ala Asn Leu Lys Ser Cys Cys Val Pro Thr Lys Leu Arg Pro Met Ser  
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20 25 30

Ser Cys Pro Ala Tyr Leu Ala Gly Val Pro Gly Ser Ala Ser Ser Phe  
35 40 45

His Thr Ala Val Val Asn Gln Tyr Arg Met Arg Gly Leu Asn Pro Gly  
50 55 60

Thr Val Asn Ser Cys Cys Ile Pro Thr Lys Leu Ser Thr Met Ser Met  
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Gly Cys Gly Leu His Ile Pro Pro Asn Leu Ser Leu Pro Val Pro Gly  
35 40 45

Ala Pro Pro Thr Pro Ala Gln Pro Tyr Ser Leu Leu Pro Gly Ala Gln  
50 55 60

Pro Cys Cys Ala Ala Leu Pro Gly Thr Met Arg Pro Leu His Val Arg  
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Leu Leu Thr Gln His Cys Ala Cys Ile  
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